and a voluntary, clinical, problem oriented teaching in centre 3); centre 2 (no intervention) acted as a control. Any differences in score in this assessment could result from the residual effects of medical school teaching, the impact of the training intervention (centres 1 and 3), plus additional effects of maturity, training, exposure to peers or senior staff, and the effects of doing the questionnaire during the first house job.

The questionnaire used a system based, clinical checklist (respiratory, cardiovascular etc) to ask about questions that were routinely asked or considered when a new patient was admitted. In addition, three short clinical scenarios were used: a 50 year old woman who was depressed and weepy was used to assess house officers' confidence in assessing and treating depression; a 20 year old asthmatic patient repeatedly admitted with panic and hyperventilation was used for anxiety; and a 40 year old man with excessive alcohol intake for alcohol misuse.

In all, 135 of 160 questionnaires (84%) were completed, with no differences in completion rates between sites ($\chi^2 = 0.15$, df = 2, P = 0.93). Questions on physical aspects such as the presence of coughs, angina, ankle swelling, and palpitations were routinely asked by over 90% of house officers, but questions on psychological state were rarely asked or even considered. Preregistration house officers often believed they lacked the skills to assess and treat these three common psychiatric problems (table).

Analysis was based on the reported style of training received by the doctors. Only 22 (16%) had been taught to assess psychosocial factors routinely during their first clinical year, and 49 doctors (36%) were taught additional psychiatry during their final year. These doctors felt most confident in assessing and treating these common psychiatric problems. At the second survey no differences were found between centres so the results were combined and the interventions deemed ineffective.

Comment

Tomorrow's Doctors recommends that students learn how to carry out a mental state examination.[2] We found that newly qualified doctors rarely assessed or had confidence in treating common psychiatric conditions, and our findings may even underestimate the extent of these problems.[3 4] Two different postgraduate teaching interventions failed to improve these results.

When students are taught at an early stage that an awareness of psychological disorder is important in assessing all patients, and when this is reinforced throughout the clinical years, they are likely to be more confident in assessing and treating common psychological problems.

Many medical schools are currently reviewing their undergraduate psychiatry curriculums.[5] We believe that an integrated assessment which addresses physical, psychological, and social aspects of illness should be taught and examined in all components of clinical medical training. Such changes may improve the competence of doctors and overall medical care.

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Occurrence of renal scars in children after their first referral for urinary tract infection

Malcolm G Coulthard, Heather J Lambert, Michael J Keir

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Department of Child Health, Royal Victoria Infirmary, Newcastle upon Tyne NE1 4LP
Malcolm G Coulthard, *consultant paediatric nephrologist*
Heather J Lambert, *consultant paediatric nephrologist*

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Urinary tract infections in childhood may cause renal scars, which can lead to hypertension and renal failure: diagnostic imaging is therefore important to detect children with scarring so that they can be monitored. A multidisciplinary group that produced imaging guidelines[1] broadly agreed that younger children should have a dimercaptosuccinic acid (DMSA) scan to detect scarring and an ultrasonography to identify structural lesions after one infection, but most thought that children over 7 years should be investigated only after recurrent infections, using ultrasound only, perhaps because of their low risk of new scar formation.[2] Others have suggested imaging only children who have a fever.[3] In Newcastle we have performed ultrasound and dimercaptosuccinic acid scans (after two months free of infection) on every child when first referred after a urinary tract infection. Here we describe our referral and scarring rates.

Patients, methods, and results

We calculated first referral rates for urinary tract infections in children aged under 16, from three health districts, from scan records at the Royal Victoria Infirmary and Newcastle General Hospital throughout 1992-5. Details available for the Royal Victoria Infirmary's cases (81%) included sex, age, extent of scarring, and consultant. Details of the presenting infections were obtained from clinical notes (92 children with scars, 232 controls), including bacteriological evidence, history, associated fever, vomiting, malaise or anorexia, hospital admission, and ultrasound findings.

The mean annual referral rate was 0.46% (2842 children in 4 years, from a population of 154 000). Girls outnumbered boys threefold; cumulative referral rates by the age of 16 were 3.6% for boys and 11.3% for girls (table). Under 1 year boys and girls were seen in similar numbers, but deviated thereafter. Sex and age

Numbers and yearly and cumulative rates of boys and girls referred with urinary tract infections from three health districts (population under 16=154 000) and their rate of renal scarring assessed by dimercaptosuccinic acid scan

	Referral rate for urinary tract infection						Scarring rate in children scanned	
	Boys			Girls				
Age (years)	No referred in 4 years	Annual %	Cumulative %	No referred in 4 years	Annual %	Cumulative %	No (%) of boys referred in 4 years	No (%) of girls referred in 4 years
<1	144	0.72	0.7	132	0.71	0.7	7 (4.9)	4 (3.0)
1-3	167	0.42	1.6	412	1.10	2.9	9 (5.4)	13 (3.2)
-5	169	0.43	2.4	635	1.70	6.3	7 (4.1)	28 (4.4)
-7	79	0.20	2.8	354	0.95	8.2	1 (1.3)	22 (6.2)
-9	65	0.17	3.1	246	0.66	9.5	4 (6.2)	20 (8.1)
-11	56	0.15	3.4	175	0.47	10.5	4 (7.1)	8 (4.6)
-13	18	0.05	3.5	107	0.29	11.0	0	1 (0.9)
-16	25	0.05	3.6	58	0.11	11.3	0	5 (8.6)
Overall (0-16)		Mean 0.23	Cumulative 3.6		Mean 0.71	Cumulative 11.3	Mean 4.4%	Mean 4.8%

Some of the grouped and cumulative rates do not correspond exactly because of rounding.

profiles remained stable through the study, but referrals rose by half, reaching 4.5% for boys and 14.4% for girls by 1995. The scarring rate was similar in boys and girls, at 4.3% and 4.7%, and did not alter during the study (χ^2 test for trend, $P = 0.23$). Logistic regression showed no association with sex ($P = 0.77$) or age ($P = 0.46$; table). Of the children with scars, 54% had multiple lesions. There was no evidence of selective referral of patients likely to have scarring; paediatric nephrologists rather than general paediatricians were referred 48.8% of the cases and identified 45.1% of the scars. Between half and three quarters of infants were febrile; had vomiting, anorexia, or malaise; and required hospital admission. These rates all fell to less than a third in children over 4. Neither these indicators nor a history suggesting previous urinary tract infections were of value for predicting scarring. Ultrasound coincidentally identified some of the scars.

Comment

Our cumulative referral rates for urinary tract infections are fairly high but similar to those of other recent studies.[4] They might be overestimates because 15% of diagnoses were not bacteriologically proved, or underestimates through failure to diagnose or refer. Our rising referral rate may reflect increased awareness. We were surprised that the scarring rate was similar at about 5% regardless of sex, age, symptoms, or history. Scars being commoner in girls presumably reflects girls' greater susceptibility to urinary infections. Scars identified in older children are presumably the result of unrecognised infections when younger. To improve diagnosis rates in infants it would be necessary to collect a urine sample from every infant with an unexplained illness,[1] now feasible with urine collection pads.[5] Since there is an equal chance of diagnosing a scar in a teenager after a urinary tract infection as there is in a toddler, there is equal merit in screening with a dimercaptosuccinic acid scan (ultrasound alone being insufficient). Children aged 4 and older with normal images can be discharged safely.[2]

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Department of Medical Physics, Royal Victoria Infirmary, Newcastle upon Tyne NE1 4LP

Michael J Keir, *principal medical physicist*

Correspondence to: Dr Coulthard

An influential doctor

Stony dullness

We were very new clinical students, and our education on the wards was very public. Those patients well enough to have finished reading the morning papers were ready for the next entertainment, and the indoctrination of medical students was billed to be as good a spectator sport as any. The consultant led us to the bed of a patient recovering from a chest complaint and strove to get out of us what we should have regurgitated from our new copies of Hutchison's *Clinical Methods*.

Eventually, he looked to the far end of the ward. "How is that light fitted to the wall?" he asked the first student. A look of bafflement appeared on the face of the latter, and then on the next and on the next, as each failed to give any sort of answer. He led us down the ward, past the gauntlet of patients' eyes. The bulk of us had the hung dog expressions of those about to undergo ritual humiliation: only the more extrovert met the gazes of the entertained with the sort of silly, knowing grin that conveyed thethought that the consultant had lost his marbles.

We were arranged around the light as though it were in bed suffering from a fascinating symptom complex. The consultant began to percuss the wall, deftly moving and tapping his way around and below the light. The note changed. "Stony dullness," he commented with satisfaction. We all repeated his actions in turn. Sure enough, the sound and sense of stony dullness was perfectly conveyed by the wooden strut, under the plaster work, to which the light had been fixed. I have never been convinced my percussion skills were of much use to my patients but percussing the wall close to light fittings has, as an occasional do-it-yourselfer in old houses, prevented my drilling into the power supply and probably saved my life.

Ian D Conacher, *consultant anaesthetist, Newcastle upon Tyne*